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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L5	1	"09/992120"	US-PGPUB; USPAT	OR	OFF	2006/03/24 10:27
L7	4	(US-6463582-$ or US-5721927-$ or US-5764962-$ or US-6763452-$). did.	USPAT	OR	OFF	2006/03/24 12:20
L8	5	US-4587612-$.DID. OR US-4791558-$.DID. OR US-5406644-$.DID. OR US-5768593-$.DID. OR US-6397242-$.DID.	USPAT	OR	OFF	2006/03/24 12:33

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S82	25	S80 and (cisc with (risc powerpc))	US-PGPUB; USPAT	OR	OFF	2006/03/24 10:27
L5	1	"09/992120"	US-PGPUB; USPAT	OR	OFF	2006/03/24 10:27
S81	5	S80 and ("390" with (risc powerpc))	US-PGPUB; USPAT	OR	OFF	2006/03/23 19:07
S80	486	S78 and translat$4	US-PGPUB; USPAT	OR	OFF	2006/03/23 19:06
S78	1565	(PSW or (Program adj status adj word))	US-PGPUB; USPAT	OR	OFF	2006/03/23 19:05
S74	10	S73 and (PSW or (Program adj status adj word))	USPAT	OR	OFF	2006/03/23 19:05
S73	50	("5560013").URPN.	USPAT	OR	OFF	2006/03/23 18:55
S72	50	("5560013").URPN.	USPAT	OR	OFF	2006/03/23 18:55
S71	2185	translation with mode	USPAT	OR	OFF	2006/03/23 17:13
S70	5	(dynamic adj object adj code adj translation)	USPAT	OR	OFF	2006/03/23 17:10
S69	0	(dynamic adj object adj code adj translation) with mode	USPAT	OR	OFF	2006/03/23 17:10
S68	11	(US-5560013-$ or US-6142682-$ or US-6516295-$ or US-6704925-$ or US-6163764-$ or US-6530078-$ or US-6457171-$ or US-6091897-$ or US-5678047-$ or US-5150474-$ or US-6415436-$).did.	USPAT	OR	OFF	2005/07/10 14:26
S66	87	717/138.ccls.	USPAT	OR	OFF	2005/07/10 14:12
S65	4	"S/390" with legacy with instruction	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/07/10 14:11
S64	380	(instruction with translat$5 with (index flag table)) and (emulat$4 simulat$4 model$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/07/10 14:11
S27	366	(instruction with translat$5 with (index flag table)) and (emulat$4 simulat$4 model$4)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/07/10 14:11

EAST Search History

S3	4	"S/390" with legacy with instruction	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/07/10 14:11
S63	484	703/27.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/07/10 14:10
S62	317	(703/26).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/07/10 14:10
S61	1	"09/992120"	US-PGPUB	OR	OFF	2005/07/10 12:39
S60	17	(US-20040194070-$).did. or (US-4638423-$ or US-5301302-$ or US-5546552-$ or US-5560013-$ or US-5577233-$ or US-5751982-$ or US-5790825-$ or US-5933622-$ or US-6009261-$ or US-6075937-$ or US-6142682-$ or US-6516295-$ or US-6704925-$ or US-6785801-$ or US-6243668-$ or US-5577231-$).did.	US-PGPUB; USPAT	OR	OFF	2005/06/23 18:27
S59	2	(dynamic adj object adj code adj translation).ti.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/23 13:52
S58	15	S57 and modifi$6	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 21:09
S57	17	(US-20040194070-$).did. or (US-4638423-$ or US-5301302-$ or US-5546552-$ or US-5560013-$ or US-5577233-$ or US-5751982-$ or US-5790825-$ or US-5933622-$ or US-6009261-$ or US-6075937-$ or US-6142682-$ or US-6516295-$ or US-6704925-$ or US-6785801-$ or US-6243668-$ or US-5577231-$).did.	US-PGPUB; USPAT	OR	OFF	2005/06/22 21:08

EAST Search History

S56	194	S55 and (TLB with (size index))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 20:32
S55	1206	(instruction with translation) and (TLB)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 20:32
S54	1	(instruction with translation) and (block adj tracking adj table)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 20:32
S11	1	"09/992130"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 20:31
S53	17126	fujitsu.as.	USPAT	OR	OFF	2005/06/22 16:24
S52	190	amdahl.as.	USPAT	OR	OFF	2005/06/22 16:24
S51	7	(instruction with translat$5) and hotspot	USPAT	OR	OFF	2005/06/22 16:18
S50	1	("6516295").URPN.	USPAT	OR	OFF	2005/06/22 16:11
S49	23	legacy with instruction with translation	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 16:01
S48	110	translation adj index$5	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 16:00
S47	61	S16 and (translation with (flag set indicator))	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:58
S46	5	S16 and (translation with (done complet$4) with (flag set indicator))	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:50
S16	715	S7 or S9	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:48
S45	82	S44 and S41	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:44

EAST Search History

S44	581	(dynamic with translation) and index$5	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:44
S43	25	S15 and S41	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:43
S15	206	instruction adj set adj simulat$4	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 15:40
S42	172	((instruction with translation) and (index$5 with (block table) with translation))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:31
S41	1192	((instruction with translation) and (block with translation))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:31
S37	2551	(instruction and (block with translation))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:30
S40	119	S39 and index with table	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:24
S39	470	S38 and table	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:24
S38	545	S37 and emulat$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:24

EAST Search History

S7	317	(703/26).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 15:22
S28	214	(instruction with translat$5 with (index flag table)) and (emulat$4)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 14:26
S26	861	(instruction with translat$5 with (index flag table set)) and (emulat$4 simulat$4 model$4)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 14:03
S25	18148	(translat$5 with (index flag table set)) and (emulat$4 simulat$4 model$4)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:33
S21	190	S16 and flag	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:31
S23	1	S16 and (block with transform)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:27
S24	1	S23 and address	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:26
S19	63	S16 and (table with index)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:26
S22	11	S16 and translation with flag	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:13
S20	15	S16 and ((table with index) same translat$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 13:13
S18	245	S17 and (translat$5)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 12:24
S17	433	S16 and (table or index)	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 12:24
S14	9	("4574344" | "4635188" | "4638423" | "4761733" | "5333287" | "5406644" | "5430862" | "5481693" | "5546552").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/22 11:45
S13	18	S12 and (store with instruction)	USPAT	OR	OFF	2005/06/22 10:30
S12	33	("4638423").URPN.	USPAT	OR	OFF	2005/06/22 10:29

EAST Search History

S8	82	S7 and (instruction with translat$)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 10:22
S10	58	S9 and (instruction with translat$)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 10:17
S9	484	703/27.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/06/22 10:17
S6	2	("5313614" | "5404478").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/06/21 12:05
S5	19	"S/390" with emulat$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/21 12:05
S2	798	"S/390"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/21 12:05
S4	116	S2 and emulat$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/21 12:04
S1	165	legacy with instruction with (translation emulat$4 simulat$4 execut$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/06/21 12:03

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"program status word" translation

- 000A0000 - 6:32pm
  publib.boulder.ibm.com/.../gtpm4/gtpm4m22.htm
- The Program Status Block - 6:32pm
  www.quadibloc.com/arch/ar0502.htm

S390 risc "execution mode"

- c Copyright by Liangchuan Hsu 1997 - 5:47pm
  www.crhc.uiuc.edu/.../phd-thesis-liang-chuan-hsu.pdf

S390 "execution mode"

- PowerPoint 簡報 - 5:45pm
  www.csie.ncu.edu.tw/.../SPRING2006/linuxLecture1.ppt
- Processor Execution Mode - 5:45pm
  refspecs.freestandards.org/.../processorexecutionmode.html
- Processor Execution Mode - 5:45pm
  www.linuxbase.org/.../spec/processorexecutionmode.html

S390 "execution modes"

- S/390 ELF Application Binary Interface Supplement - 5:45pm
  www.linuxbase.org/spec/ELF/zSeries/lzsabi0_s390.html
- S/390 ELF Application Binary Interface Supplement - 5:43pm
  www.busybox.net/.../trunk/docs/psABI-s390.pdf?rev=10811

"dynamic object code translation", what is

- Patent Search Results - 5:09pm
  www.freepatentsonline.com/CCL717-138.html

"dynamic object code translation", what is

- Method and apparatus for dynamic management of translated code ... - 10:57am
  www.freepatentsonline.com/6529862.html

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program status word, S/390 "execution modes", "legacy execution modes"

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S390 "execution modes"

S/390 ELF Application Binary Interface Supplement - 5:45pm
www.linuxbase.org/spec/ELF/zSeries/lzsabi0_s390.html

S/390 ELF Application Binary Interface Supplement - 5:43pm
www.busybox.net/.../trunk/docs/psABI-s390.pdf?rev=10811

"dynamic object code translation", what is

Patent Search Results - 5:09pm
www.freepatentsonline.com/CCL717-138.html

"dynamic object code translation", what is

Method and apparatus for dynamic management of translated code ... - 10:57am
www.freepatentsonline.com/6529862.html

Reservoir Labs® -- Advanced Compiler Development Services - 10:55am
www.reservoir.com/s-compiler.php

"dynamic object code translation"

Reservoir Labs® -- R-Stream Streaming Compiler - 10:55am
www.reservoir.com/r-dyn.php

IBM Research: VLIW - 10:52am
www.research.ibm.com/vliw/

Searches with no clicked results:
S/390 "execution modes", "legacy execution modes"

Mar 20, 2006

Network Processor Performance and Design Model with Benchmark Parameterization - Related history

A Network Processor Performance and Design Model with Benchmark ... - 2 visits - 9:03am
www.ecs.umass.edu/ece/wolf/pubs/2002/npw.html

Mar 19, 2006

"network processor" "resource utilization"

PowerPoint Presentation - 8:03pm
www.cesr.ncsu.edu/ancs/slides/ANCS2005-f04yang.ppt

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#3	(program status word<in>metadata)
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#5	((psw<in>metadata) <and> (translation<in>metadata))<and> (cisc<in>metadata)
#6	(program status word<in>metadata)
#7	(program status word<in>metadata)
#8	((an eight issue tree-vliw processor for dynamic binary translation)<in>metadata)
#9	((complete computer system simulation: the simos approach) <in>metadata)

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mikeg@watson.ibm.com

VLIW at IBM Research

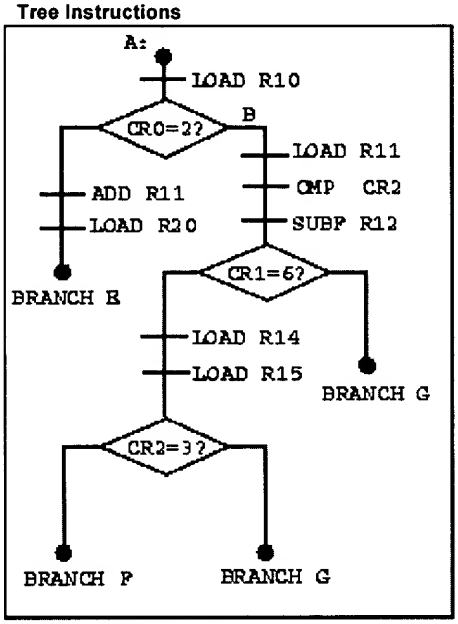
Introduction

The VLIW effort at the IBM T.J. Watson Research Center started in 1986, leading to our first publications [1, 2] describing a new approach to exploit instruction-level parallelism in branch-intensive programs. This approach is based on expressing a program as a sequence of tree-instructions, each of which contains a multiway branch and multiple operations, all executable concurrently. Since then, three generations of a parallelizing compiler have been developed, a 8-unit VLIW processor prototype was designed and built, a tree-based VLIW architecture has been devised, a complete simulation environment has been developed, VLIW-based techniques have been introduced into existing compilers, and methods have been devised for object code translation from existing architectures into VLIW. Our recent work includes open-source DAISY, a dynamic binary translation project aiming to represent legacy architectures as a layer of software on a VLIW, and LaTTe, a joint Java (TM) JIT compiler project with Seoul National University, focusing on research into fast dynamic compilation techniques and instruction level parallelism in Java.

Our research activities include:

- The continuing development of compilation techniques to extract and exploit instruction-level parallelism (ILP) from programs.
- The development of architectures suited to use the ILP found through the compilation techniques.

Tree Instructions



Related Research

- DAISY
- LaTTe: an open-source JIT compiler

More Information

- Talks and Presentations
- Publications and Patents

- The continuing development of tools and an environment to simulate/evaluate the potential benefits of VLIW technology.
- The development of solutions to the limitations traditionally associated with VLIW architectures, such as
  - scalable implementations of VLIW;
  - static and dynamic object code translation for achieving binary compatibility;
  - software and hardware techniques for memory latency reduction.
- The integration of VLIW-based compilation techniques into existing compilers for IBM RS/6000 systems.

Update Inventor Search

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Last Name = HILTON
First Name = RONALD

Application#	Patent#	Status	Date Filed	Title	Inventor Name
09992120	Not Issued	71	11/14/2001	State-specific variants of translated code under emulation	HILTON, RONALD
09992121	Not Issued	71	11/14/2001	Flexible caching of translated code under emulation	HILTON, RONALD
09992130	Not Issued	71	11/14/2001	Processing of self-modifying code under emulation	HILTON, RONALD
09992137	Not Issued	90	11/14/2001	MEMORY ADDRESS PREDICTION UNDER EMULATION	HILTON, RONALD
08798305	5889639	150	02/07/1997	PLAIN CARBON STEEL SHUTTER FOR REMOVABLE DATA STORAGE CARTRIDGES	HILTON, RONALD A.
09201248	Not Issued	161	11/30/1998	DIGITAL PHONE SYSTEM	HILTON, RONALD D.
09201460	Not Issued	161	11/30/1998	METHOD AND APPARATUS FOR DYNAMIC DOMAIN NAMES	HILTON, RONALD D.
60067231	Not Issued	159	12/02/1997	METHOD AND APPARATUS FOR DYNAMIC DOMAIN NAMES	HILTON, RONALD D.
60067233	Not Issued	159	12/02/1997	DIGITAL PHONE SYSTEM	HILTON, RONALD D.
08796271	5896241	150	02/07/1997	PLAIN CARBON STEEL HUB FOR DATA STORAGE DEVICE	HILTON, RONALD L.
09211954	6292996	150	12/15/1998	METHOD OF MAKING A PLAIN CARBON STEEL HUB FOR DATA STORAGE DEVICE	HILTON, RONALD L.
11254290	Not Issued	30	10/19/2005	Processing of self-modifying code in multi-address-space and multi-processor systems	HILTON, RONALD N.
11254291	Not Issued	30	10/19/2005	Queue or stack based cache entry reclaim method	HILTON, RONALD N.
11271075	Not Issued	20	11/10/2005	Sparse table compaction method	HILTON, RONALD N.
11271681	Not Issued	20	11/10/2005	Peer-based partitioning method for system resource sharing	HILTON, RONALD N.
11280554	Not Issued	20	11/15/2005	Distributed shared I/O cache subsystem	HILTON, RONALD N.
60620364	Not Issued	159	10/19/2004	Processing of self-modifying code in multi-address-space and multi-processor systems	HILTON, RONALD N.
60620365	Not Issued	159	10/19/2004	Queue or stack based cache entry reclaim method	HILTON, RONALD N.
60628332	Not Issued	159	11/15/2004	Distributed shared I/O cache subsystem	HILTON, RONALD N.
60628420	Not Issued	159	11/15/2004	Peer-based partitioning method for system resource	HILTON, RONALD N.
60628452	Not Issued	159	11/15/2004	Sparse table compaction method	HILTON, RONALD N.
07816959	Not	166	01/03/1992	S-UNIT ERROR HISTORY INHIBIT (EHI)	HILTON, RONALD N.

	Issued			FACILITY	
07949583	5410668	150	09/23/1992	RECONFIGURABLE CACHE MEMORY WHICH CAN SELECTIVELY INHIBIT ACCESS TO DAMAGED SEGMENTS IN THE CACHE MEMORY	HILTON, RONALD N.
07950459	Not Issued	161	09/24/1992	CONCURRENT BRANCH PROCESSING WITH DUAL INSTRUCTION DECODE	HILTON, RONALD N.
07954297	Not Issued	166	09/30/1992	COMPUTER SYSTEM HAVING CACHE MEMORIES WITH INDEPENDENTLY VALIDATED KEYS IN THE TLB	HILTON, RONALD N.
07993082	5488706	150	12/18/1992	A RETRY REQUEST SYSTEM IN A PIPELINE DATA PROCESSING SYSTEM WHERE EACH REQUESTING UNIT PRESERVERS THE ORDER OF REQUESTS	HILTON, RONALD N.
08033415	Not Issued	161	03/18/1993	S-UNIT ERROR HISTORY INHIBIT (EHI) FACILITY	HILTON, RONALD N.
08337133	5603008	150	11/10/1994	COMPUTER SYSTEM HAVING CACHE MEMORIES WITH INDEPENDENTLY VALIDATED KEYS IN THE TLB	HILTON, RONALD N.

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Binary translation and architecture convergence issues for IBM system/390

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↑ ABSTRACT

We describe the design issues in an implementation of the ESA/390 architecture based on binary translation to a very long instruction word (VLIW) processor. During binary translation, complex ESA/390 instructions are decomposed into instruction "primitives" which are then scheduled onto a wide-issue machine. The aim is to achieve high instruction level parallelism due to the increased scheduling and optimization opportunities which can be exploited by binary translation software, combined with the efficiency of long instruction word architectures. A further aim is to study the feasibility of a common execution platform for different instruction set architectures, such as ESA/390, RS?6000, AS/400 and the Java Virtual Machine, so that multiple systems can be built around a common execution platform.

↑ REFERENCES

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

1 K. Ebcioglu and E. Altman. DAISY: dynamic compilation for 100% architectural compatibility. Research Report RC 20538, IBM TJ. Watson Research Center, Yorktown Heights, NY, 1996.

2 K. Ebcioglu, E. R. Altman, and E. Hokenek. A JAVA ILP machine based on fast dynamic

Cited References with this paper ✓

compilation. In IEEE MASCOTS International Workshop on Security and Efficiency Aspects of Java, January 1997.

3 J. E. Smith, T. Heil, S. Sastry, and T. M. Bezenek. Achieving high performance via co-designed virtual machines. In International Workshop on Innovative Architecture for Future Generation High-Performance Processors and Systems, pages 77- 84, October 1998.

4 Gabriel M. Silberman , Kemal Ebcioğlu, An architectural framework for migration from CISC to higher performance platforms, Proceedings of the 6th international conference on Supercomputing, p.198-215, July 19-24, 1992, Washington, D. C., United States

5 Gabriel M. Silberman , Kemal Ebcioglu, An Architectural Framework for Supporting Heterogeneous Instruction-Set Architectures, Computer, v.26 n.6, p.39-56, June 1993

6 Kemal Ebcioğlu , Erik R. Altman, DAISY: dynamic compilation for 100% architectural compatibility, Proceedings of the 24th annual international symposium on Computer architecture, p.26-37, June 01-04, 1997, Denver, Colorado, United States

7 Kemal Ebcioglu , Erik R. Altman , Sumedh W. Sathaye , Michael Gschwind, Execution-Based Scheduling for VLIW Architectures, Proceedings of the 5th International Euro-Par Conference on Parallel Processing, p.1269-1280, August 31-September 03, 1999

8 Kemal Ebcioğlu , Erik R. Altman , Michael Gschwind , Sumedh Sathaye, Optimizations and oracle parallelism with dynamic translation, Proceedings of the 32nd annual ACM/IEEE international symposium on Microarchitecture, p.284-295, November 16-18, 1999, Haifa, Israel

9 C. May, Mimic: a fast system/370 simulator, Papers of the Symposium on Interpreters and interpretive techniques, p.1-13, June 24-26, 1987, St. Paul, Minnesota, United States

10 S. Kim, S.-M. Moon, K. Ebcioglu, and E, Altman. VLa'ITe: a Java just-in-time compiler for VLIW with fast scheduling and register allocation. To appear.

11 P. Hohensee, M. Myszewski, and D. Reese. WABI CPU emulation. In Hot Chips VIII, Palo Alto, CA, 1996.

12 M. Gschwind. Method for the deferred materialization of condition code information. Research Disclosures, 1999. (to appear).

13 K. Ebcioglu. Some design ideas for a VLIW architecture for sequential-natured softwhre. In M. Cosnard et al., editor, Parallel Processing, pages 3-21. North-Holland, 1988. (Proceedings of IFIP WG 10.3 Working Conference on Parallel Processing).

14 Sarita V. Adve , Kourosh Gharachorloo, Shared Memory Consistency Models: A Tutorial, Computer, v.29 n.12, p.66-76, December 1996

15 J. Moreno and M. Moudgill. Method and apparatus for reordering of memory operations in a processor. US Patent No. 5,758,051, May 1998.

16 Eric L. Boyd , Edward S. Davidson, Hierarchical performance modeling with MACS: a case study of the convex C-240, Proceedings of the 20th annual international symposium on Computer architecture, p.203-210, May 16-19, 1993, San Diego, California, United States

17 Kemal Ebcioglu , Randy D. Groves , Ki-Chang Kim , Gabriel M. Silberman , Isaac Ziv, VLIW compilation techniques in a superscalar environment, Proceedings of the ACM SIGPLAN 1994 conference on Programming language design and implementation, p.36-48, June 20-24, 1994,

Orlando, Florida, United States

18 Anton Chernoff , Mark Herdeg , Ray Hookway , Chris Reeve , Norman Rubin , Tony Tye , S. Bharadwaj Yadavalli , John Yates, FX!32: A Profile-Directed Binary Translator, IEEE Micro, v.18 n.2, p.56-64, March 1998

19 Mendel Rosenblum , Stephen A. Herrod , Emmett Witchel , Anoop Gupta, Complete Computer System Simulation: The SimOS Approach, IEEE Parallel & Distributed Technology: Systems & Technology, v.3 n.4, p.34-43, December 1995

20 Richard L. Sites , Anton Chernoff , Matthew B. Kirk , Maurice P. Marks , Scott G. Robinson, Binary translation, Communications of the ACM, v.36 n.2, p.69-81, Feb. 1993

21 A. Klaiber. The technology behind crusoe processors. Technical report, Transmeta Corp., Santa Clara, CA, January 2000.

22 E. Kelly, R. Cmelik, and M. Wing. Memory controller for a microprocessor for detecting a failure of speculation on the physical nature of a component being addressed. US Patent 5832205, November 1998.

23 Ravi Nair , Martin E. Hopkins, Exploiting instruction level parallelism in processors by caching scheduled groups, Proceedings of the 24th annual international symposium on Computer architecture, p.13-25, June 01-04, 1997, Denver, Colorado, United States

24 Eric Rotenberg , Quinn Jacobson , Yiannakis Sazeides , Jim Smith, Trace processors, Proceedings of the 30th annual ACM/IEEE international symposium on Microarchitecture, p.138-148, December 01-03, 1997, Research Triangle Park, North Carolina, United States

25 An Eight Issue Tree-VLIW Processor for Dynamic Binary Translation, Proceedings of the International Conference on Computer Design, p.488, October 05-05, 1998

↑ **INDEX TERMS**

Primary Classification:
C. Computer Systems Organization
↳ **C.5** COMPUTER SYSTEM IMPLEMENTATION
↳ **C.5.1** Large and Medium ("Mainframe") Computers
↳ **Nouns:** IBM System/390

Additional Classification:
C. Computer Systems Organization
↳ **C.0** GENERAL
↳ **Subjects:** Instruction set design (e.g., RISC, CISC, VLIW)

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